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CLAIMS

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I claim:

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5	.	А	device	comprising

a first I/O bus-interface circuit; and an on-the-fly message manipulation circuit connected to said first I/O bus-interface circuit, wherein said on-the-fly message manipulation circuit sets on-the-fly a pre-selected sub-unit of a pre-selected message-unit of a message to a pre-selected state as said pre-selected message-unit is passed through said device.

15 2. The device of Claim 1 wherein on-the-fly manipulation circuit further comprises:

a message detector module comprising:

an input coupled to said first I/O businterface circuit; and

a message-detected line, wherein in response to information indicative of said message on said input, said message detector module generates an active signal on said message-detected line.

3. The device of Claim 1 wherein said on-the-fly message manipulation circuit further comprises:

a message-unit detector module having a message-unit detected line, wherein said message-unit detector module generates an active signal on said message-unit detected line upon detecting said pre-selected message-unit of said message.

4. The device of Claim 2 wherein said on-the-fly 35 message manipulation circuit further comprises:

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a message-unit detector module having a message-unit detected line, wherein said message-unit detector module generates an active signal on said message-unit detected line upon detecting said pre-selected message-unit of said message.

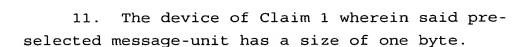
- 5. The device of Claim 4 wherein said on-the-fly message manipulation circuit further comprises:
- a message sub-unit state selection module coupled to said message-detected line and to said message-unit detected line, wherein said message sub-unit state selection module sets said preselected sub-unit of said pre-selected message-unit of said message to said pre-selected state after receiving said active signal on said message-detected line, and said active signal on said message-unit detected line.
- 6. The device of Claim 1 wherein said message is a SCSI Parallel Protocol Request Message.
 - 7. The device of Claim 1 wherein said device is a SCSI expander that does not support adjustable active filtering.
 - 8. The device of Claim 1 wherein said device is a SCSI expander that supports adjustable active filtering.
- 30 9. The device of Claim 6 wherein said preselected message-unit has a size of one byte.
- 10. The device of Claim 9 wherein said preselected sub-unit is a precompensation enable control bit.

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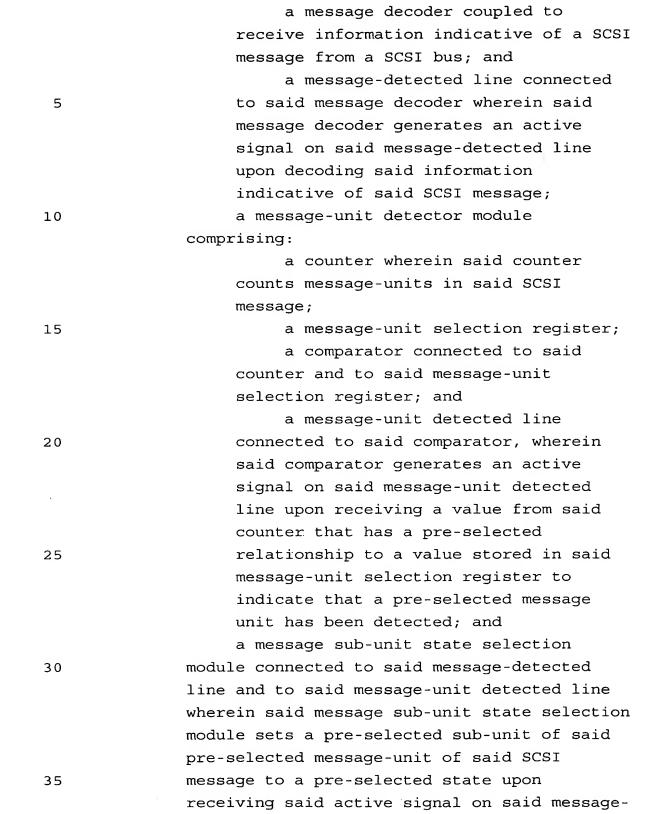
- 12. The device of Claim 1 further comprising:
 a second I/O bus-interface circuit connected
 to said on-the-fly message manipulation circuit.
- - a message-detected line;
 - a message-unit detected line; and
 - a message sub-unit state selection module connected to said message-detected line and to said message-unit detected line, wherein said message sub-unit state selection module sets a pre-selected sub-unit of a pre-selected message-unit of a SCSI message to a pre-selected state after receiving an active signal on said message-detected line, and an active signal on said message-unit detected line.
- 14. The SCSI expander of Claim 13 wherein said
 25 SCSI message manipulation circuit further comprises:

 a message detector module comprising said
 message-detected line wherein in response to
 information indicative of said SCSI message, said
 message detector module generates said active
 30 signal on said message-detected line.
 - 15. The SCSI expander of Claim 13 wherein said
 SCSI message manipulation circuit further comprises:

 a message-unit detector module having said
 message-unit detected line wherein said messageunit detector module generates said active signal

on said message-unit detected line upon detecting said pre-selected message-unit of said SCSI message.

- 5 16. The SCSI expander of Claim 14 wherein said SCSI message manipulation circuit further comprises:
 - a message-unit detector module having said message-unit detected line wherein said message-unit detector module generates said active signal on said message-unit detected line upon detecting said pre-selected message-unit of said SCSI message.
- 17. The SCSI expander of Claim 13 wherein said 15 SCSI message is a SCSI Parallel Protocol Request Message.
- 18. The SCSI expander of Claim 13 wherein said SCSI expander is a SCSI expander that supports adjustable active filtering.
 - 19. The SCSI expander of Claim 13 wherein said SCSI expander supports adjustable active filtering.
- 25 20. The SCSI expander of Claim 17 wherein said pre-selected message-unit has a size of one byte.
- 21. The SCSI expander of Claim 20 wherein said pre-selected sub-unit is a precompensation enable 30 control bit.
 - 22. A SCSI expander comprising:
 - a SCSI message manipulation circuit comprising:
- 35 a message detector module comprising:



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detected line, and said active signal on said message-unit detected line, as said preselected message-unit passes through said SCSI expander.

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23. The SCSI expander of Claim 22 wherein said message sub-unit state selection module further comprises:

an encoder connected to an enable sub-unit bus.

- 24. The SCSI expander of Claim 23 wherein said message sub-unit state selection module further comprises:
- a sub-unit selection register connected to said encoder.
- 25. The SCSI expander of Claim 22 wherein said message sub-unit state selection module further comprises:

an output bus having a plurality of output lines.

26. The SCSI expander of Claim 25 wherein said message sub-unit state selection module further comprises:

a first plurality of logic gates wherein an output terminal of each logic gate of said first plurality of logic gates is selectively coupled to and selectively decoupled from a different output line of said output bus

27. The SCSI expander of Claim 26 wherein said message sub-unit state selection module further comprises:

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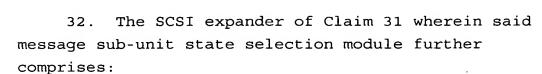
an input bus having a plurality of input lines wherein each line in said plurality of input lines is connected to a first input terminal of a different logic gate in said first plurality of logic gates.

- 28. The SCSI expander of Claim 27 wherein said message sub-unit state selection module further comprises:
- a second plurality of logic gates wherein an output terminal of each logic gate of said second plurality of logic gates is connected to a second input terminal of said different logic gate in said first plurality of logic gates.
 - 29. The SCSI expander of Claim 28 wherein said message-detected line is connected to a first input terminal of each logic gate of said second plurality of logic gates.
 - 30. The SCSI expander of Claim 29 wherein said message-unit detected line is connected to a second input terminal of each logic gate of said second plurality of logic gates.
 - 31. The SCSI expander of Claim 30 wherein said message sub-unit state selection module further comprises:
- an encoder having an enable sub-unit output

 bus-including a plurality of lines wherein each
 line in said enable sub-unit output bus is
 connected to a third input terminal of a different
 logic gate in said second plurality of logic
 gates.

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a sub-unit selection register connected to said encoder.

33. A method for configuring a pre-selected subunit of a message on-the-fly comprising:

detecting said message using a hardware
circuit;

detecting a pre-selected message-unit of said message using said hardware circuit; and

configuring said pre-selected sub-unit of said pre-selected message-unit of said message to a pre-selected state using said hardware circuit as said pre-selected message-unit is passed through a device including said hardware circuit.

- 34. The method of Claim 33 wherein said message 20 is a SCSI Parallel Protocol Request message.
- 35. The method Claim 34 wherein said sub-unit is a bit in said SCSI Parallel Protocol Request message specifying signal conditioning supported by said expander.